Chapter 2

1. Suppose the market demand curve for a product is given by

$$Q^D_{mkt} = 1000 - 10P$$

and the market supply curve is given by

$$Q^S_{mkt} = -50 + 25P$$

(a) What are the equilibrium price and quantity

(b) What is the inverse form of the demand curve?

2. Suppose that the individual demand curves for two individuals are given by

$$Q_1^D = \begin{cases} 200 - 10P & \text{if } P \leq 20 \\ 0 & \text{otherwise} \end{cases} \quad \text{and} \quad Q_2^D = \begin{cases} 100 - 10P & \text{if } P \leq 10 \\ 0 & \text{otherwise} \end{cases}$$

and that the supply curve for the firm is given by

$$Q_{mkt}^S = \begin{cases} 20P - 100 & \text{if } P \geq 5 \\ 0 & \text{otherwise} \end{cases}.$$

Find the market equilibrium (keeping in mind that the market price may be such that only 1 consumer will be willing to stay in the market).

3. Suppose that when Snarfburger originally charged a price of \$5 for their burger, they sold $1,000$ burgers per week. Thinking that they could potentially make more money by charging a higher price, they raised their price by 50 cents. After raising their price, they sold 800 units per week.

   (a) Find the price elasticity of demand for Snarfburgers.

   (b) Write a sentence interpreting the price elasticity of demand you calculated.

Table 1: Estimates of the Price Elasticity of Demand for Selected Food Products

Product	Estimated $\epsilon_{Q,P}$
Cigars	-0.756
Canned and cured seafood	-0.736
Fresh and frozen fish	-0.695
Cheese	-0.595
Ice cream	-0.349
Beer and malt beverages	-0.283
Bread and bakery products	-0.220
Wine and brandy	-0.198
Cookies and crackers	-0.188
Roasted coffee	-0.120
Cigarettes	-0.107
Chewing tobacco	-0.105
Pet food	-0.061
Breakfast cereal	-0.031

Pagoulatos & Sorensen (1986)

(a) Which good is the most inelastic?

(b) Which food product is more inelastic, Cheese or Roasted coffee?

(c) Is Ice cream considered an elastic good?

(d) Write a sentence interpreting the elasticity for Cookies and crackers.